

# **APPENDIX 25**

**19. *If a chlorophyll *a* criterion is needed, should a narrative chlorophyll *a* criterion as published by EPA for all Chesapeake Bay and tidal tributary waters be considered or should a site-specific numerical chlorophyll *a* criteria be developed.***

Over two years of analysis and discussion by the CBP Chlorophyll Team resulted in the conclusion that no specific numeric criteria for chlorophyll *a* were appropriate, even for individual salinity regimes (EPA, 2003). The ranges of chlorophyll *a* discussed in the Bay criteria document are mostly based on trophic classifications and reference conditions with no direct link to the designated uses that criteria protect (VAMWA, 2003). Therefore, if a chlorophyll *a* criterion were adopted, it should be narrative.

VAMWA (2003) has previously proposed monitoring of chlorophyll *a* and aspects of the narrative chlorophyll *a* criterion (e.g., aesthetics, HABs) as part of an adaptive management approach. Such an approach would help evaluate if nutrient reductions driven by dissolved oxygen and water clarity criteria were sufficient to protect designated uses, or if site-specific numeric criteria were necessary to protect designated uses in certain Virginia tributaries.

**20. *If site-specific chlorophyll *a* numerical criteria are proposed how should they be expressed (e.g. concentration, duration).***

As discussed above, no site-specific chlorophyll *a* numerical criteria are justified at this time. If such criteria were derived in the future, concentration, frequency, and duration components would be dependent upon the specific impairment that the criteria were intended to prevent.

**21. *Whether the measures of attainment of the criteria published by the EPA are appropriate for all small tidal creeks and embayments given that the data used to determine attainment was primarily taken from main stem Bay and main channel tributary data.***

As the question implies, small tidal creeks and embayments are very different hydrologic and biological regimes than those directly considered during the criteria derivation process. The Bay criteria document acknowledges that flushing and/or high loading rates of natural organic matter represent natural conditions that may prevent attainment of the proposed water quality criteria. Virginia should ensure that whatever uses are adopted for embayments and tidal creeks are attainable under practical management scenarios. If natural conditions prevent attainment of a particular use, either another use should be adopted or site-specific criteria should be developed.